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Patent and Trademark Office

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/893,669 06/29/01 JANG

G P20978

007056 MMC2/1102
GREENBLUM & BERNSTEIN, P.L.L.C.
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RESTON VA 20191

EXAMINER

ELKASSABGI, H

ART UNIT

PAPER NUMBER

2834

DATE MAILED:

11/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/893,669

Applicant(s)

JANG ET AL.

Examiner

Heba Elkassabgi

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of.
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

2. The drawings are objected to because Fig 2a and 2b are missing a reference line for the permanent magnet which is to number as 260. Correction is required.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "251" and "252" have both been used to designate the inner protruding portion of the hub, claim 1 lines 15 and 19. Correction is required. For the purpose of advancing prosecution on the merits the examiner will assume that the disk of claim 1 is mounted on the upper face of the outer protruding portion.

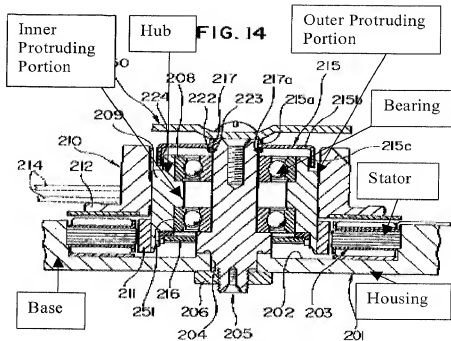
Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

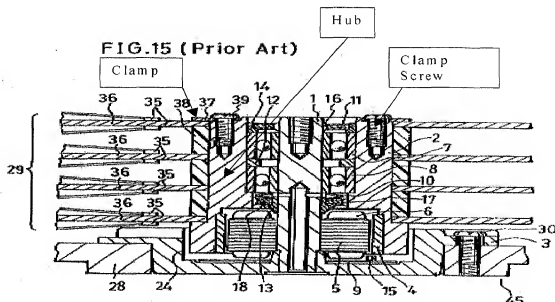
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura et al. U.S. Patent 5880545 and Sakuragi et al. U.S. Patent 5598047.

Takemura et al. illustrates a spindle motor in Figure14, which consists of a fixed shaft 205 mounted in a circular hole within the central portion of the base 201, a cylindrical hub with an outer protruding portion at the upper inner face of the hub and an inner protruding portion of the hub between the upper and lower ball bearings 208 and 251, a permanent magnet 211 which is attached to the lower outer face of the outer protruding portion of the hub, a stator 203 that is attached to the upper end portion of the inner circumferential face of the base, and a disk 214 which is mounted to the outer protruding portion of the hub. However, Takemura et al. does not teach the use of a spindle motor in which a clamp is attached to the hub with bolts that mount a disk and does not demonstrate that the permanent magnet is attached to the lower outer protruding portion of the hub.



Sakuragi et al. shows in Figure 15 a permanent magnet that is attached to the hub by the lower inner protruding portion of the hub. Sakuragi et al. illustrates in Figure 15, a spindle motor with a clamp 37 attached to the hub 2 with bolts 39 to mount a disk 36.



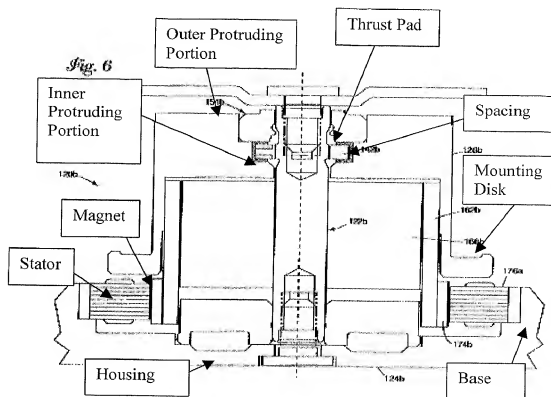
It would have been obvious to one ordinary skill in the art at the time the invention was made to modify the device in Takemura et al. to have a clamp attached to the hub by a bolt in which a disk is mounted to for the purpose of securing the disk to the rotor as disclosed in Sakuragi et al.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takemura et al., Sakuragi et al. and Lee et al. U.S. Patent 6071014.

The combination of Takemura et al. and Sakuragi et al. discloses a spindle motor in which Takemura et al. illustrates in Figure 14, which consists of a fixed shaft 205 mounted in a circular hole within the central portion of the base 201, a cylindrical hub with an outer protruding portion at the upper inner face of the hub and an inner

protruding portion of the hub between the upper and lower ball bearings 208 and 251, a permanent magnet 211 which is attached to the lower outer face of the outer protruding portion of the hub, a stator 203 that is attached to the upper end portion of the inner circumferential face of the base, and a disk 214 which is mounted to the outer protruding portion of the hub. However, Takemura et al. does not teach the use of a spindle motor in which a clamp is attached to the hub with bolts that mount a disk and does not demonstrate that the permanent magnet is attached to the lower outer protruding portion of the hub. Sakuragi et al. shows in Figure 15 a permanent magnet that is attached to the hub by the lower inner protruding portion of the hub. Sakuragi et al. illustrates in Figure 15, a spindle motor with a clamp 37 attached to the hub 2 with bolts 39 to mount a disk 36. However, the combination lacks a thrust pad that is spaced by a certain distance from the hub.

Lee discloses in Figure 6 a spindle motor 120b with a fixed shaft 122b that includes a inserted thrust pad spaced from a hub 128b, an outer protruding portion of the hub, an inner protruding portion of the hub, a permanent magnet 174b that is bonded to a lower side of the outer circumferential face, a stator 176b bonded to an upper portion of the housing, a base plate 124c with a circular hole into which the housing is attached. It would have been obvious to one ordinary skill in the art at the time the invention was made to have combined the spindle motor design of Takemura and the thrust pad of Lee with the attachment of the clamp and bolts to the hub of Sakuragi to secure a disk to the rotor and to attach a permanent magnet to the lower outer protruding portion of the hub.



Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (7:30-4:30), and every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestro Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)


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305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE
October 31, 2001


HECTOR RAMIREZ
SUPERVISOR OF PATENT EXAMINER
TECHNOLOGY CENTER